Electronic Version
Stylesheet Version v1.1.1

Claims

[c1] 1. A lug for releasable attachment to a conveyor belt, the lug comprising:

a base having an upper surface, a lower surface and edge surfaces extending between and interconnecting the upper surface and the lower surface of the base;

a first side wall and a second side wall mounted to opposite edge surfaces of the base such that the base extends between and interconnects the side walls intermediate upper and lower ends of the side walls; and

a flange extending inwardly from adjacent each of the lower ends of the side walls, each flange defining a slot between the flange and the lower surface of the base for receiving an edge of the conveyor belt,

wherein the first side wall is pivotally mounted to the base for movement relative to the base between a first position where the flange on the lower end of the first side wall is spaced a first distance from the flange on the lower end of the second side wall for allowing the belt to fit between the flanges, and a second position where the flanges on the side walls are spaced apart a second distance which is less than the width of the belt for capturing the belt in the slots between the side walls.

[c2] 2. A lug as recited in claim 1, wherein the first side wall is perpendicular to the base when in the second position.

[c3] 3. A lug as recited in claim 1, wherein the base has a planar lower surface.

[c4] 4. A lug as recited in claim 1, wherein the second side wall is fixed relative to the base.

[c5] 5. A lug as recited in claim 1, further comprising a third wall extending upwardly from an edge of the base.

[c6] 6. A lug as recited in claim 5, wherein the upper end of the second side wall is rigidly connected to the third wall for fixing the position of the second side wall relative to the base.

[c7] 7. A lug as recited in claim 1, further comprising means for releasably securing the first side wall in the second position.

[c8] 8. A lug as recited in claim 7, wherein the releasable securing means comprises means for biasing the first side wall to the second position.

[c9] 9. A lug as recited in claim 7, further comprising a third wall extending upwardly from an edge of the base, and wherein the releasable securing means comprises a de-

tent integral with the surface of the third wall facing the first side wall, the detent blocking movement of the first side wall from the second position except by moving the first side wall in a direction away from the third wall.

[c10] 10. A lug as recited in claim 9, wherein the detent comprises an inclined cam surface extending furthest away from the surface of the third wall at the end of the cam surface closest to the edge of the third wall, the cam surface engaged by the first wall as the first wall moves from the first position to the second position where the first wall clears the end of the cam surface for securing the first side wall in the second position.

[c11] 11. A lug as recited in claim 1, wherein the second side wall is pivotally mounted to the base for movement relative to the base between the first position and the second position.

[c12] 12. A lug as recited in claim 11, further comprising means for releasably securing the first and second side walls in the second position.

[c13] 13. A lug as recited in claim 12, wherein the releasable securing means comprises means for biasing the first and second side walls to the second position, the biasing means disposed between and engaging the inner sur-

faces of the side walls for biasing the walls apart.

[c14] 14. A lug as recited in claim 12, further comprising a third wall extending upwardly from an edge of the base, and wherein the releasable securing means comprises a detent integral with the surface of the third wall facing the side walls, the detent blocking movement of the first and second side walls from the second position except by moving the side walls in a direction away from the third wall.

[c15] 15. A lug as recited in claim 14, wherein the detent comprises an inclined cam surface extending furthest away from the surface of the third wall at the end of the cam surface closest to the edges of the third wall, the cam surface engaged by the side walls as the side walls move from the first position to the second position where the side walls clear the end of the cam surface for securing the side walls in the second position.

[c16] 16. A conveying system for transporting objects along a path of travel during operation of the conveying system, the conveying system comprising:

a frame;

a drivable endless conveying belt supported on the frame for movement in a direction of the path of travel, the belt having an inner surface and an outer surface,

the outer surface of the belt forming an object conveying surface and the inner surface of the belt including longitudinally spaced teeth extending transversely to the path of travel;

a plurality of flight lugs releasably mounted at spaced intervals along the belt in the direction of the path of travel, each lug comprising

a base having an upper surface, a lower surface and edge surfaces extending between and interconnecting the upper surface and the lower surface of the base,

a first side wall and a second side wall integral with opposite edge surfaces of the base such that the base extends between and interconnects the side walls intermediate upper and lower ends of the side walls, and

a flange extending inwardly from adjacent each of the lower ends of the side walls, each flange defining a slot between the flange and the lower surface of the base for receiving an edge of the conveyor belt,

wherein the first side wall is pivotally mounted to the base for movement relative to the base between a first position where the flange on the lower end of the first side wall is spaced a first distance from the flange on the lower end of the second side wall for allowing the belt to fit between the flanges, and a second position where the flanges on the side walls are spaced a second distance which is less than the width of the belt for capturing the

belt in the slots between the side walls, the flanges extending between the teeth on the inner surface of the belt,

wherein the lugs form a spaced series of flights along the outer object conveying surface of the belt.

[c17] 17. A conveying system as recited in claim 16, wherein the lugs engage the objects for positioning or moving the objects as the objects are conveyed in the direction of the path of travel.

[c18] 18. A conveying system as recited in claim 16, further comprising means secured to the lugs for engaging the objects for positioning or moving the objects as the objects are conveyed in the direction of the path of travel.

[c19] 19. A conveying system as recited in claim 16, wherein the first side wall is perpendicular to the base when in the second position.

[c20] 20. A conveying system as recited in claim 16, wherein the base has a planar lower surface.

[c21] 21. A conveying system as recited in claim 16, wherein the second side wall is fixed relative to the base.

[c22] 22. A conveying system as recited in claim 16, further comprising a third wall extending upwardly from an edge

of the base.

[c23] 23. A conveying system as recited in claim 22, wherein the upper end of the second side wall is rigidly connected to the third wall for fixing the position of the second side wall relative to the base.

[c24] 24. A conveying system as recited in claim 16, further comprising means for releasably securing the first side wall in the second position.

[c25] 25. A conveying system as recited in claim 24, wherein the releasable securing means comprises means for biasing the first side wall to the second position.

[c26] 26. A conveying system as recited in claim 24, further comprising a third wall extending upwardly from an edge of the base, and wherein the releasable securing means comprises a detent integral with the surface of the third wall facing the first side wall, the detent blocking movement of the first side wall from the second position except by moving the first side wall in a direction away from the third wall.

[c27] 27. A conveying system as recited in claim 25, wherein the detent comprises an inclined cam surface extending furthest away from the surface of the third wall at the end of the cam surface closest to the edge of the third

wall, the cam surface engaged by the first wall as the first wall moves from the first position to the second position where the first wall clears the end of the cam surface for securing the first side wall in the second position.